

CLAIMS

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What is claimed is:

1. An apparatus for continuously shuffling playing cards, said apparatus comprising:
 - a card receiver for receiving a first group of cards;
 - 5 a single moveable stack of card-receiving compartments generally adjacent to the card receiver, and means for moving the stack;
 - a card-moving mechanism between the card receiver and the stack;
 - a processing unit that controls the card-moving mechanism and the means for relatively moving the stack with respect to the card receiver so that cards placed in the card receiver are
 - 10 moved into a selected number of compartments;
 - a second card-moving mechanism between the stack and the second card receiver;
 - a second card receiver for receiving cards from the compartments, and
 - a counting system that counts cards when 1) passed from the card receiver to the stack of card-receiving compartments, and/or 2) passed from the stack of card-receiving compartments to
 - 15 the second card receiver.
2. The apparatus of claim 1 wherein the counting system also counts cards present in said second card receiver.
- 20 3. The apparatus of claim 1 wherein the system maintains a count of cards in the card-receiving stacks.
4. The apparatus of claim 2 wherein the system maintains a count of the total number of cards within the stack of card receiving compartments and the second card receiver.
- 25 5. The apparatus according to claim 1, further comprising a second card moving means for emptying the compartments into the second card receiver.
6. The apparatus according to claim 5, further comprising a card present sensor operably coupled to the second card receiver.

7. The apparatus according to claim 6, wherein cards are moved from the compartments into the second card receiver in response to a reading from the card present sensor.

8. A card handler comprising:

5 a card staging area for receiving cards to be handled;

a plurality of card-receiving compartments, the card staging area and the compartments are relatively movable;

a card mover generally between the staging area and the compartments for moving a card from the staging area into one of the compartments;

10 a microprocessor programmed to identify each card in the card staging area and to actuate the card mover to move an identified card to a randomly selected compartment, wherein the microprocessor is programmable to deliver a selected number of cards to a compartment;

a drive system responsive to the microprocessor for providing relative motion between the card mover and the compartments; and

15 a counting system for counting cards within specified areas within the card handler.

9. The card handler of claim 8 wherein the counting system counts cards entering and leaving the plurality of card-receiving compartments.

10. The card handler of claim 8 wherein a card moving system is present to move cards from the plurality of card-receiving compartments to a second card receiving area.

11. The card handler of claim 8 wherein the counting system counts cards entering and leaving the plurality of card-receiving compartments and cards entering and leaving the second card receiving area.

12. The card handler of claim 11 wherein the counting system maintains a rolling count of the cards within both the plurality of card-receiving compartments and the second card receiving area.

13. The card handler according to claim 12, further comprising inputs operably coupled to the microprocessor for inputting information into the microprocessor.

14. A playing card handler comprising:

5 a stack of compartments for accumulating cards in at least one compartment;
a microprocessor programmed to randomly select the compartment which receives each card in a manner sufficient to accomplish randomly arranging the cards in each compartment, wherein the microprocessor is programmable to deliver a selected number of cards to a selected number of compartments;

10 a card staging area for receiving a stack of cards to be handled, wherein the stack of compartments is movable with respect to the card staging area;

card moving means responsive to output signals from the microprocessor for moving between the staging area and the stack of mixing compartments;

15 a card mover for moving cards from the compartments to a second card receiver; and
the microprocessor performing as a counting system for counting cards within specified areas within the card handler.

20 15. The apparatus according to claim 14, further comprising a data storage medium accessible by the processing unit, wherein the data storage medium has a program stored on it, and wherein the program is configured to cause the processing unit to cause the card moving means to move cards from the staging area to random compartments.

25 16. The apparatus according to claim 14, wherein the microprocessor monitors, records and controls a display for the use of the apparatus.

17. The apparatus of claim 14, further comprising at least one sensor for monitoring the movement of cards.

30 18. The apparatus according to claim 17, wherein the data storage medium is further configured to cause the processing unit to detect a card jam.

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19. A method of substantially continuously resupplying randomly arranged cards, said method comprising the steps of:

providing a card receiver for receiving cards to be processed;

5 providing a single stack of card-receiving compartments generally adjacent to the card receiver and means for moving the stack relative to a card moving mechanism;

providing a card-moving mechanism between the card receiver and the stack and moving cards from the card receiver to the card-receiving compartments;

providing a second card receiver for receiving processed cards;

10 providing a second card moving mechanism for moving cards from the compartments to the second card receiver; and

counting cards within specified areas within the card handler.

20. The method of claim 19 wherein cards are counted within the stack of card-receiving compartments.

21. The method of claim 20 wherein cards are counted within the stack of card-receiving compartments and the second card receiving area.

22. The method according to claim 20, further comprising provided a processing unit for controlling the card-moving mechanism and the means for moving the stack so that cards in the card receiver are moved into random compartments.

23. The method according to claim 22, further comprising using the microprocessor to designate each card and select a compartment for receiving each designated card.

24. The method according to claim 23, wherein the designation and selection is performed before card moving operations begin.

25. A device for delivering shuffled cards comprising:

a card receiver for receiving at least one stack of unshuffled cards;
a plurality of individual compartments;
a first card mover for moving each card in the stack individually from the card receiver to a compartment;

5 a second card mover for moving cards from a compartment to a second card receiver upon demand; and

a processing unit programmed to control the first card mover and the second card mover ,
wherein the processing unit randomly assigns each card in the stack to a compartment, and
controls the first card mover and the second card movers upon demand.

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26. The method according to claim 25, wherein between seventeen and nineteen compartments are provided.

27. The method according to claim 25, wherein the group of cards comprises one or more decks of cards selected from the group consisting of a standard 52 card deck, a standard deck with one or more wild cards, a standard deck with one or more jokers, a special deck and a partial deck.

28. The method according to claim 25, wherein every card in the group is assigned to a compartment before the first card is delivered.

29. A method of performing a security check on a card handling system used at a gaming table comprising:

providing a card receiver for receiving cards to be processed;

providing a single stack of card-receiving compartments generally adjacent to the card receiver and means for moving the stack;

providing a card-moving mechanism between the card receiver and the stack and moving cards from the card receiver to the card-receiving compartments;

providing a second card receiver for receiving processed cards;

providing a second card moving mechanism for moving cards from the compartments to the second card receiver; and

counting cards within specified areas within the card handler during a period wherein cards are moved within the card handling system;

wherein card movement from the card receiving compartments to the second card receiver is halted, all cards in the area of the gaming table and the second card receiver are retrieved

5 inserted into the card receiver for receiving cards to be processed, the cards inserted into the card receiver for receiving cards to be processed are counted as they move to the stack of card-receiving compartments, and adding the number of retrieved cards counted to the number of cards counted as within specified areas within the card handler to provide a final count of cards.

10 30. The method of claim 29 wherein a total number of cards to be used in the play of a game on the casino gaming table is identified to a microprocessor prior to starting play of the game.

31. The method of claim 30 wherein the final count of cards is compared to the total number of cards identified to the microprocessor prior to starting play of the game.

15 32. The method of claim 31 wherein only cards within the stack of card-receiving compartments are counted.

20 The method of claim 31 wherein cards are counted within the stack of card-receiving compartments and the second card receiving area.

33. A card shuffling apparatus capable of delivering a continuous supply of shuffled cards on demand, the apparatus comprising:

a card shuffling chamber for randomizing cards;

25 a card receiver and feed mechanism for receiving and feeding unshuffled cards into the shuffling chamber;

at least one sensor for sensing the presence of a card as the card is being fed into the shuffling chamber;

30 at least one sensor for sensing the presence of a card as the card is being removed from the shuffling chamber;

a mechanism for removing cards from the shuffling chamber on demand to provide a continuous supply of shuffled cards;

a visual display; and

a microprocessor,

wherein the microprocessor is programmed to:

receive signals from sensors and count cards entering and being removed from the shuffling chamber and to maintain a count of cards present in the shuffling chamber;

receive instructions from an apparatus user to initiate a card counting process, wherein the card counting process includes discontinuing of operation of the card removal process, pausing until cards outside of the shuffling chamber are loaded into the feed mechanism, receiving an indication from the at least one sensor for sensing the presence of a card as the card is being fed into the shuffling chamber and the at least one sensor for sensing the presence of a card as the card is being removed from the shuffling chamber of an indication of current card count status on the visual display.

34. The apparatus of claim 33 wherein the indication from the at least one sensor for sensing the presence of a card as the card is being fed into the shuffling chamber and the at least one sensor for sensing the presence of a card as the card is being removed from the shuffling chamber indicates the number of cards added and removed from the shuffling chamber.

35. The apparatus of claim 33 wherein the shuffling chamber comprises a plurality of mixing compartments, wherein the mixing compartments move relative to the card feeding mechanism.

36. The apparatus of claim 33 wherein the mechanism for providing access to a continuous supply of cards comprises a shoe.

37. The apparatus of claim 33 wherein the indication of card count status comprises a card count.

38. The apparatus of claim 33 wherein the indication of card count status comprises an error signal.

39. A method of performing a security check on an automatic card handling system comprising:

Providing a card shuffling chamber;

Providing a feed mechanism for delivering cards to the card shuffling chamber;

Providing an unloading mechanism for removing cards from the shuffling chamber;

Maintaining a current count of cards in the card shuffling chamber;

Halting the card shuffling process;

Loading all cards outside of the shuffling chamber into the shuffling chamber;

Counting cards loaded into the shuffling chamber after halting the shuffling process; and

Displaying a sum of the number of cards present in the shuffling chamber prior to halting and the cards loaded into the shuffling chamber after halting.

40. An apparatus for continuously shuffling playing cards, said apparatus comprising:

a card receiver for receiving a first group of cards;

a single stack of card-receiving compartments generally adjacent to the card receiver, said stack generally vertically movable, and means for moving the stack;

a card-moving mechanism between the card receiver and the stack;

a processing unit that controls the card-moving mechanism and the means for moving the stack so that cards placed in the card receiver are moved into a selected number of compartments; and

a second card receiver for receiving cards from the compartments

the card receiver for receiving the first group of cards supporting the cards so that gravity applies a force against the cards and maintains an inter-operative position between the cards and the card moving mechanism.

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